KOMLOSY, Antal

"Practical nomograms for the hot and cold rolling of steel, noble
steels and nonferrous metals" by Prof. Dr. Ing. Otto Emicke.
Reviewed by Antal Komlosy. Koh lap 96 no.8:383 Ag '63.

KOMLOSY, Antal

      Up-to-date fine rolling mills. Koh lap 93 no.9:390-394 S '60.

L 7821-66   EWT(l)/EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EWP(j)   IJP(c)   GG/RM

ACC NR: AP5023108   SOURCE CODE: UR/0048/65/029/011/2009/2013

AUTHOR: Shuvalov,L.A.; Rudyak,V.M.; Komlyakova,N.S.; Kamayev,V.Ye.

ORG: Institute of Crystallography, Academy of Sciences, SSSR (Institut kristallografii Akademii nauk SSSR); Kalinin State Pedagogical Institute im. M.I.Kalinin (Kalininskiy gosudarstvennyy pedagogicheskiy institut)

TITLE: Influence of gamma irradiation on the Barkhausen effect in ferroelectric materials /Report, Fourth All-Union Conference on Ferroe-electricity held at Rostov-on-the Don 12-16 September 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 11, 1965, 2009-2013

TOPIC TAGS: ferroelectric crystal, single crystal, gamma irradiation, Barkhausen jump

ABSTRACT: The Barkhausen effect has been investigated in 10 x 10 x 2 mm^3 γ-irradiated Y-cut triglycine sulfate and X- and 45° X-cut Rochelle salt crystals. The crystals were irradiated in the ferroelectric phase, and the measurements were made at room temperature several weeks or months after irradiation, using experimental techniques described by V.M.Rudyak and V.Ye.Kamayev (Izv. AN SSSR. Ser. fiz., 29, 937 (1965); Uch. zap. Kalininsk. ped. in-ta, 40 (1964)). Polarization and volume jumps of 1.8 x 10^{-14} C cm and 0.3 x 10^{-8} cm^3 could be detected in triglycine sulfate, and jumps of 5.3 x 10^{-15} C cm and 1.5 x 10^{-8} cm^3 could be detected in Rochelle salt. The total

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L 7821-66
ACC NR: AP5028103

number of Barkhausen jumps decreased rapidly with increasing dose for both materials. The starting field for Barkhausen jumps increased with increasing dose; when the γ-ray dose was 1 Mr, the starting field for triglycine sulfate was about 0.5 kV/cm, and for Rochelle salt the starting field was approximately 2.5 kV/cm. The field distribution of Barkhausen jumps as measured by the commutation method showed a single maximum; as the dose was increased this maximum broadened and shifted to higher fields. The above-described effects are ascribed to stabilization of the domain structure by the γ irrad-iation. When the field distribution of Barkhausen jumps is measured with a stepwise varying applied field the maximum occurs at the field for which the slope of the hysteresis loop is greatest, and if the hysteresis loop is distorted two maxima may be observed. Such bimodal Barkhausen jump field distributions were observed with irrad-iated crystals of both investigated materials. Examination of the Barkhausen jump field distribution proved to be a more sensitive means for detecting small distortions of the hysteresis loop than observation of the loop on the oscilloscope screen. Negative Barkhausen jumps (polarization jumps in the direction opposite to that of the applied field) were observed in the irradiated crystals. Gamma irradiation had an in-hibiting effect on polarization jumps produced by mechanical stress; no such jumps were found in Rochelle salt crystals which had received a γ-ray dose exceeding 0.3 Mr. The authors thank I.S.Zheludev and V.A.Yurin for valuable remarks, I.G.Gavrilova for pro-viding the samples, and K.A.Pluzhnikov for irradiating them. Orig. art. has: 5 figures.

SUB CODE: SS,EM   SUBM DATE: 00/   ORIG. REF: 007   OTH REF: 000

Card 2/2

ALEKSANDROVA, I.L.; VZOROVA, S.I.; BRAANDES, R.I.; GERASIMOV, I.F.;
    DARINSKIY, Anatoliy Viktorovich; KOMLYAKOVA, V.I.; KOSHELEVA,
    Ye.S.; LEVINA, B.M.; LIZOGUB, V.K.; RODIONOVA, F.A., red.; TA-
    TURA, G., tekhn. red.

[Reader on the economic geography of the U.S.S.R.] Khrestomatiia
po ekonomicheskoi geografii BSSR; posobie dlia uchitelei. Mo-
skva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1961.
342 p.   (MIRA 14:8)
                    (Geography, Economic)

KOMNIK, S.N.; STARTSEV, V.I.; TSIRLIN, Yu.A.

Temperature dependence of gamma-ray scintillations in thallium-
activated cesium iodide crystals. Opt. spektr. 4 no.3:411-412
Mr '58.
                                                    (MIRA 11:4)
        (Cesium iodides—Optical properties)   (Gamma rays)

KOMLOSY, A.

Automation possibilities in our section mills. (To be Contd.) p. 255.

KOHASZATI LAPOK. (Magyar Banyaszati es Kohaszati Egyesulet) Budapest, Hungary
Vol. 14, no. 6, June 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,
August 1959.
Uncla.

Komlosy Imre
CH

Quantitative analysis by wet methods. Imre Komlosy. *Technika* (Budapest) 24, 461-9(1943).—Details are given of a procedure for the pycnometric detn. of the wts. of ppts., without drying or igniting. István Finály

A16.1SLA METALLURGICAL LITERATURE CLASSIFICATION

Kombossy

Am

Komlossy (G.). Adatok a Dohánybetegségek elleni védekezési eljárások ismeretéhez. I. Higanytartalmú csávázószerek physiológiai hatásának összehasonlító vizsgálata a Dohány-magvakra és a mag útján terjedő kárekosókra. [Contributions to the knowledge of the methods of control of Tobacco diseases. I. Comparative experiments on the physiological effects of mercury-containing disinfectants on Tobacco seed and seed-borne agents of disease.]—Kisérletügyi Közlemények, xxxvi, 1–3, pp. 134–163, 2 figs., 9 graphs, 1933. [German summary.]

A comprehensive, fully tabulated account is given of the writer's

experiments at the Budapest Plant Protection Research Institute on the efficacy of five disinfectants in the control of two fungi responsible for heavy damage in tobacco seed-beds, viz., *Alternaria tenuis* and *A. brassicae* Berk. var. *tabaci* Preiss. [*A. tabacina* Gulyás: *R.A.M.*, xi, p. 135]. To test the effect of the fungicides on germination, seeds of *Nicotiana tabacum* var. *latifolia*, *N. latissima* var. *ovata*, and *N. rustica* var. *cordata* were immersed for 10, 30, or 60 minutes in 0.05 to 0.5 per cent. solutions, while fragments from pure cultures of the organisms were subjected to the same treatment for similar periods to determine the relative value of the treatments. On the basis of the resulting data the writer recommends 10 minutes' immersion in 0.1 per cent. higosan [ibid., x, p. 603] or 0.1 to 0.2 per cent. tillantin, 30 minutes in 0.15 to 0.1 per cent. tillantin, and 60 minutes in 0.1 to 0.2 germisan or 0.3 to 0.5 per cent. uspulun, all of which are absolutely fungicidal under the specified conditions. Higor was found to be unsuitable for the object in view.

KOMLOSSY, Gy.

Iron mold of potatoes and the problem of species. p. 127
KOZLEMENYEI, Budapest.   Vol 8, no. 1/2, 1955.

SOURCE: EEAL   Vol 5, no. 7, July 1956

LEBEDEV, A.A.; STRAZHEVA, I.V.; SAKHAROV, G.I.; KHOMLYAR, Ya.M., kan-
didat tekhnicheskikh nauk; redaktor; GLADKIKH, N.N. tekhnicheskiy
redaktor.

[Aeromechanics of the airplane] Aeromekhanika samoleta. Moskva,
Gos. izd-vo oboronnoi promysh., 1955. 472 p.   (MLRA 8:8)
       (Aerodynamics)

ACHILIAN. A. I., ANDRIUSHCHENKO, O. A.

Dredging Machinery

Excavating pump 1000-80. Vest. mash. 31 no. 12, 1951.

9. **Monthly List of Russian Accessions**, Library of Congress, _September_ 195$, Unclassified.
2

KOMLYAREVSKIY

... stream of compressed unsaturated gas ...
... pressure. I. L. Komlyarevskiy ...
... A simple method of ...
... preparation ...
... military test purposes. The apparatus ...
... inside diam ...
... heated for ...
... passed at the rate of 1g./min at two ... pressure ...
... was raised to 33 ...
... mixture (4:6 ...) ... were prepared
similarly.

KOHN, A.G.

Problems in the psychology of the intellect in J. Piaget's works.
Vop.psikhol. 3 no.1:157-165 Ja-F '57.   (MIRA 10:3)
         (Intellect) (Piaget, Jean, 1896-)

KOHN, A.G.

Perception of sets objects by younger preschool children [with summary in English]. Vop. psikhol. 4 no.5:77-87 S-O '58.   (MIRA 11:12)

1.Kafedra psikhologii Moskovskogo gosudarstvennogo universiteta.
(Perception)

KOHN, D. G.

"Rendering Wastes Harmless by Composting." Thesis for degree of Cand. Medical Sci. Sub 5 Apr 50, Acad Med Sci USSR

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950.

Decontamination of waste by chlorinated lime. D. G. Komm, *Gigiena i Sanit.* 1950, No. 6, 43-4. —Exptl. treatment of fecal waste with chlorinated lime suspensions showed that even 5% addn. to an actively decomposing mass is not effective in stopping development of typhoid organisms, and within 5 days no active Cl could be detected. Use of 7-10% dosage stopped the development of the germs but did not eliminate them; addn. of 2.5% free HCl had some beneficial effect. Only the surface layers of the piles retained active Cl for appreciable time. *Ascaris* eggs are killed only by no less than equal vol. of chlorinated lime being mixed with the waste matter; lower concns. are weakly effective. Fly larvae are killed effectively by not less than 20% chlorinated lime in fecal matter in 4-8 days, or by 20% in 4-6 days in general waste products. Flies are effectively repelled from such waste by coverage with 640 g. chlorinated lime per sq. m.

G. M. Kosolapoff

KOMM, D.G., kandidat meditsinskikh nauk

Sanitary and hygienic characteristics of the Novosibirsk Reservoir;
prognosis of the quality of water. Gig. i san. 21 no.10:52-53 O '56.

1. Iz Novosibirskogo nauchno-issledovatel'skogo sanitarnogo instituta
    (WATER SUPPLY
        reservoirs for drinking purposes & irrigation,
        hygienic aspects)

MOROZOV, V.A.;   KOMM, D.G.

Soil pollution by refuse of the superphosphate industry. Gig.i san. no.6:
8-11 Je '53.
                                                              (MLRA 6:6)

1. Nauchno-issledovatel'skiy sanitarnyy institut imeni Erismana.
                                        (Soil pollution) (Phosphates)

S/096/62/000/012/001/003
E194/E135

AUTHORS: Komm, P.S., Lapuzin, V.S., Nemirov, V.S.,
            Fridman, A.Ye., and Shcherbina, S.A.   (Engineers)

TITLE: The control system of a 50 MW gas turbine of the
            Khar'kov Turbine Works

PERIODICAL: Teploenergetika, no.12, 1962, 37-44

TEXT: The 50 MW gas turbine type ГТУ-800 (GTU-800) is of
open cycle design, burns natural gas at a pressure of 22 atm, and
provides heat for district heating. The h.p. combustion chamber,
turbine, compressor and l.p. compressor and starting motor are on
one shaft. On a second shaft, side by side with the first, are the
l.p. combustion chamber, turbine, and m.p. compressor, alternator
and geared exciter/starter motor. The first shaft speed is
variable and at full-load is 3600 r.p.m; the second shaft runs at
a constant speed of 3000 r.p.m. The gas distribution arrangements
are described. The control arrangements, described in detail,
consist of two main systems: speed control and anti-surging
control; in addition there are auxiliary systems for run-up
control, overspeed protection on dropping load, excess temperature
Card 1/3

The control system of a 50 MW gas ... S/096/62/000/012/001/003
E194/E135

The overspeed governor is independent of the main speed governor
and cuts off the fuel supply. Selection of the control arrangements
is discussed and design principles are explained, with particular
reference to dynamic stability. Transient process performance
curves of the control system show that it is stable.
There are 9 figures.

ASSOCIATION: Khar'kovskiy turbinnyy zavod
             (Khar'kov Turbine Works)

Card 3/3

KOMM, P. S., inzh.; LAPUZIN, V. S., inzh.; MEMIROV, V. S., inzh.; FRIDMAN, A. Ye., inzh.; SHCHERBINA, S. A., inzh.

Dynamics of the control of a GTU-50-800 gas turbine system manufactured by the Kharkov Turbine Plant. Energomashinostroenie 8 no.12:1-7 D '62.   (MIRA 16:1)

(Gas turbines)

L 24868-66   EWT(m)/EWP(f)/EPF(n)-2/EWP(j)/T/ETC(m)-6   WW/WE/RM

ACC NR: AP6006399   (N)   SOURCE CODE: UR/0413/66/000/002/0142/0143

AUTHORS: Savvin, V. N.; Komm, P. S.; Shostak, V. F.   64

ORG: none   B

TITLE: Fuel cut-off device for gas turbine installations. Class 46, No. 178246

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 142-143

TOPIC TAGS: engine fuel system, gas turbine fuel, gas turbine control, polymer

ABSTRACT: This Author Certificate presents a fuel cut-off device for gas turbine installations, consisting of a body which contains a valve with a valve rod, the valve seat, and fuel inlet and outlet chambers. To make it more explosion-proof, the body has an intermediate low-pressure chamber connected to the gas suction line. The valve is two-sided, in the form of a slider valve with ports and a chamber connected with the low-pressure chamber when the valve is closed (see Fig. 1). A second feature provides polycaprolactam inserts between the valve seat and plunger. A third feature has the connection between valve and valve rod located in the low-pressure chamber.
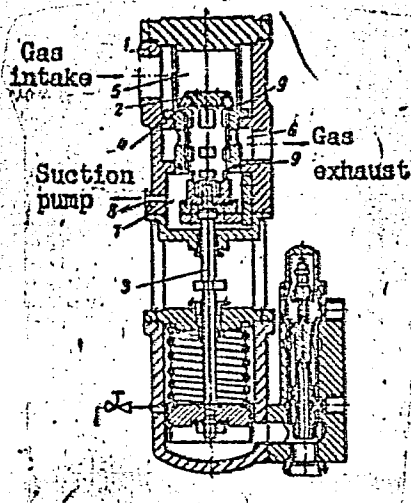
Card 1/2   UDC: 621.438--333.1

L 24868-66

ACC NR: AP6006399

Fig. 1. 1 - body; 2 - valve; 3 - rod;
         4 - seat; 5 - inlet chamber;
         6 - outlet chamber; 7 - low-pressure
         chamber; 8 - leakage suction;
         9 - inserts.

Gas
intake

Suction
pump

Gas
exhaust

Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 15Aug64

Card 2/2 cKa

KOMM, S.G.

How cancer cells perish....Nauka i zhizn' 29 no.10:58-59
O '62.   (MIRA 15:12)
            (CYTOTOXIC DRUGS)

KAGAN, G.Ya.; LEVASHEV, V.S.; KOMM, S.G.

Morphology of the L-form of B-hemolytic streptococci. Report
No. 1: Characteristics of morphogenesis of the L-form of B-hemolytic
streptococci. Zhur. mikrobiol., epid. i imm. 41 no. 2:122-128
F '64.   (MIRA 17:9)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

KAGAN, G.Ya.; LEVASHEV, V.S.; KOMM, S.G.

Morphology of the L-form of β-hemolytic streptococci. Report No.2:
Characteristics of the growth and multiplication of L-forms of β-
hemolytic streptococci. Zhur. mikrobiol., epid. i immun. 41 no.3:24-
27 Mr '64.   (MIRA 17:11)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

IVANNIK, B.P.; KOMM, S.G.; SPITKOVSKIY, D.M.; TSEYTLIN, P.I.

Effect of small ionizing radiation doses on some phases of the
deoxyribonucleoproteid structuration. Radiobiologiia 5 no.4:
491-493 '65.   (MIRA 18:9)

1. Institut eksperimental'noy biologii AMN SSSR; Otdel nauchnoy
i eksperimental'noy meditsinskoy kinematografii AMN SSSR i
Institut meditsinskoy radiologii AMN SSSR, Moskva.

KISELEVA, N.S.; KOMM, S.G.; MALENKOV, A.G.

Dynamics of establishing and severing contacts between the
cells of ascitic Zaidela's hepatoma in a tissue culture.
TSitologiia 7 no.6:722-728 N-D '65.

(MIRA 19:1)

1. Laboratoriya tsitogenetiki i Laboratoriya mekhanizmov
kantserogeneza Instituta eksperimental'noy i klinicheskoy
onkologii AMN SSSR i Otdel nauchnoy i eksperimental'noy
meditsinskoy kinematografii AMN SSSR, Moskva. Submitted
May 11, 1964.

KOMM, S.G.; KAGAN, G.Ya.; PROZOROVSKIY, S.V.; KOPTELOVA, Ye.I.; RAKOVSKAYA,
  I.V.; ISAKIN, V.P.; TUREVICH, Ye.Ye.

Basic trends in the cinematographic study of L-form bacteria
and Mycoplasma. Vest. AMN SSSR 20 no.8:20-22 '65.   (MIRA 18:9)

1. Institut epidemiologii i mikrobiologii imeni N.F.Gamalei
AMN SSSR i otdel nauchno-issledovatel'skoy kinematografii
AMN SSSR, Moskva.

L 12809-66   EWT(1)/EWA(j)/T/EWA(b)-2   JK
ACC NR: AP5028187   SOURCE CODE: UR/0248/65/000/008/0066/0074

AUTHOR: Kagan, G. Ya.; Rakovskaya, I. V.; Koptelova, Ye. I.; Prozorovskiy, S. V.;
Zhiv, B. V.; Komm, S. G.

ORG: Institute of Epidemiology and Microbiology Academy of Medical Sciences SSSR
(Institut epidemiologii I mikrobiologii im. N. F. Gamalei AMN SSSR, Moscow)

TITLE: Comparison of the cytopathogenic effect produced by different types of L-
form bacteria and mycoplasms in tissue cultures

SOURCE: AMN SSSR. Vestnik, no. 8, 1965, 66-74

TOPIC TAGS: bacteria, microbiology, mycoplasm

ABSTRACT: The authors present the results of a comparative study of the cytopatho-
genic effect produced by several species of L-form bacteria and mycoplasms and their
capacity to grow in various tissue cultures. The bacteria tested included the stable
L-culture of *S. typhi*, No. 152L, stable L-culture of the hemolytic streptococcus No.
196L, and two stable L-cultures of the streptococci Nos. 406L and 409L. *M. laidlawii*
and *M. agalactiae* were the mycoplasms tested. The L-form bacteria and mycoplasms

Card 1/2   UDC: 576.8.095.5.06 : 576.3

L 12809-66
ACC NR: AP5028187   O

differ in their elective action on various tissue cultures and in the nature and in-
tensity of the cytopathogenic changes that they produce. For example, *M. laidlawii*
provokes a sharp cytopathogenic effect in chick embryo cultures, the titer reaching
a maximum on the second day. *M. agalactiae* produces very slight cytopathogenic
changes, e.g., attenuation of the layer, the titer reaching a maximum in 6-8 days.
Mycoplasms grow on chick embryo fibroblasts in titers of 10^5 to 10^7 without inducing
cytopathogenic changes. Mycoplasms differ from one another in the time required for
the cytopathogenic changes to become manifest in cultures and in the pH of the medi-
um. The results of these investigations suggest that a study of the cytopathogenic
effect and growth of L-form bacteria and mycoplasms in tissue cultures may be useful
in differentiating them. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 06/ SUBM DATE: 28May65/ ORIG REF: 001/ OTH REF: 001

        jw
Card 2/2

KOMM, S. T., TROITSKIY, V. L., and PERSHINA, Z. G.

[film] "The Action of Antibiotics on Dysentery Bacteria." which they had prepared." Inst. Epidem and Microbiol im. Gamaleya 1954-56.

Personnel Identified as Participants in Scientific Conferences held by the Institute in 1953. Inst. Epidem and Microbiol im. Gamaleya AMS USSR

SO: Sum 1186, 11 Jan 57.

YERMOLENKO, N.F., red.;KOMMAROV, V.S., red.; TKACHEVA, T., red. izd-
va; ATLAS, A., tekhn. red.

[Ion exchange and sorption from solutions] Ionoobmen i sorb-
tsiia iz rastvorov. Minsk, Izd-vo AN Bel.SSR, 1963. 159 p.
(MIRA 16:9)
1. Akademiya nauk BSSR. Minsk. Institut obshchey i neorgani-
cheskoy khimii.
(Ion exchange)   (Sorption)

3

CZECHOSLOVAKIA

ROUBAL, J; VASAK, V; KOZISLOVA, B.

    Institute of Industrial Hygiene and Occupational Disease
       (Ustav hygieny prace a chorob z povolanei), Prague
      (for all)

    Prague, Ceskoslovenska hygiena, No 5, 1963, pp 265-272

    "Hygienic Problems Associated with the Production of Viscous
      Cords."

KOMMER, E.

Flaxseed pod-removing machine made in home workshop.

P. 320, (Sotsialistlik Pollumajandus) Vol. 12, no. 7, July 1957, Tallinn, Estonia

SO: Monthly Index of East European Acessions (EEAI) Vol. 6, No. 11 November 1957

KOMMODOV, N.V., Cand Tech Sci -- (diss) "Study of
the accuracy of transit traverses of underground
mining surveys." Stalino, 1957, 22 pp; 7 sheets
with tables (Min of Higher Education UkSSR.
Donets Order of Labor Red Banner Industrial Inst
im N.S. Khrushchev) 120 copies (KL, 28-58, 106)

KOMMODOV, N. V.

KOMMODOV, N.V., inzh.

New method of evaluating the accuracy of angular and linear theodolite traverse measurements in underground mine surveying. Izv. vys. ucheb. zav.; gor. zhur. no.2:55-63 '58.   (MIRA 11:5)

1. Donetskiy industrial'nyy institut.
                        (Mine surveying)

OGLOBLIN, Dmitriy Nikolayevich; REYZENKIND, Iosif Yakovlevich; KOMMODOV,
Nikolay Vladimirovich; KAUFMAN, A.M., red.izd-va; KAMASKOVA,
I.P., tekhn.red.; SHKLYAR, S.Ya., tekhn.red.

[Tables for open-pit mine surveying] Tablitsy dlia markshei-
derskoi s"emki kar'erov. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry
po gornomu delu, 1960. 234 p.   (MIRA 13:5)
                    (Mine surveying)

KOMMODOV, N.V., kand. tekhn. nauk; OGLOBLIN, D.N., prof.

Automatic profiling of mine and strip mine railroad tracks. Izv.vys.
ucheb.zav.;gor.zhur. 7 no.6:34-39 '64.   (MIRA 17:12)

1. Donetskiy politekhnicheskiy institut. Rekomendovana kafedroy
marksheyderskogo dela.

KOMMODOV, V.

KOTOV, P., kand. sel'skokhozyaystvennykh nauk; KOMMODOV, V., kand. sel'-
skokhozyaystvennykh nauk; KOTOVA, G., kand. sel'skokhozyaystvennykh
nauk.

Establishing an ever normal feed supply in the Central Black Earth
region. Nauka i pered. op. v sel'khoz. 18 no.2:10-13 F '58.
(Central Black Earth region--Feeding and feeding stuffs)(MIRA 11:3)

KOMMODOV, V. V.

KOMMODOV, V. V.   "The use of Perennial Grasses as Green Fodder for Cattle under
Conditions of the Kamennaya Step'." All-Union Sci Res Inst of
Fodder imeni V. R. Vil'yams. Moscow, 1956
(For The Degree of Candidate in Agricultural Science)

So: Knizhnaya Letopis' No. 18, 1956

USSR/Meadow Cultivation.   L

Abs Jour: Ref Zhur-Biol., No 9, 1958, 39127.

Author : Kotlov, P.F.; Kommodov, V.V.
Inst   : Scientific Research Institute of Agriculture of
          Central Chernozem Belt.
Title   : Radical Improvement of Natural Pastures on Slopes.

Orig Pub: Byul. nauchn.-tekhn. inform. n.-i. in-ta S. kh.
          TsChP, 1956, No 1, 36-37.

Abstract: The authors recommend methods and periods of
          soil cultivation, standards and periods of grass
          sowing and the mixture of grasses which give
          results on gray forest soils under conditions
          prevailing in the northern part of the Central
          Chernozem Belt. These recommendations are based

Card   : 1/2

Card   : 2/2

KOMKODOV, V.V., kandidat sel'skokhozyaystvennykh nauk.

Improving sloped pastures in the central Chernozem zone. Zemledelie
5 no.7:62-64 Jl '57.
                                                    (MLRA 10:8)
        (Voronezh Province--Pastures and meadows)

KOMMODOV, V.V., kand. sel'skokhozyaystvennykh nauk

Rotation lot system of pasturing and its effect on soils and the state of perennial grass fields. Zhivotnovodstvo 21 no.5:26-28 My '59.   (MIRA 12:7)

1. Institut sel'skogo khozyaystva tsentral'noy chernozemnoy polosy imeni V.V.Dikuchayeva.
            (Pastures and meadows)

KOMMODOV, V.V.; kand.sel'skokhoz. nauk; PETRENKO, A.T.; OVCHINNIKOV, I.A.

Components of grass mixtures for slopes. Zemledelie 25 no.12:
26-30 D '63.   (MIRA 17:4)

1. Institut sel'skogo khozyaystva TSentral'no-chernozemnoy polosy
imeni V.V.Dokuchayeva.

KOTOV, P.F., kand. sel'khoz. nauk, nauchn.sotr.; KOMMODOV, V.V.,
        kand. sel'khoz. nauk, nauchn. sotr.; OVCHINNIKOV, I.A.;
        NENAROKOV, M.I.; BOGDANOV, V.M., prof.; KONDAKCV, N.A.,
        kand. sel'khoz. nauk; BOBYLEV, V.S., kand. sel'khoz.
        nauk; ITUNINA, R.G., red.

        [Improvement of natural pastures on slopes] Uluchshenie
        estestvennykh pastbishch na sklonakh. Voronezh,
        TSentral'no-Chernozemnoe knizhnoe izd-vo, 1964. 85 p.
                                        (MIRA 18:1)
        1. Institut sel'skogo khozyaystva TSentral'no-Chernozemnoy
        polosy im. V.V.Dokuchayeva (for Kotov, Kommodov).
        2. Nauchnyy rukovoditel' Pavlovskogo opytnogo lugovogo po-
        lya (for Nenarodov). 3. Zaveduyushchiy opornym punktom
        Instituta sel'skogo khozyaystva TSentral'no-Chernozemnoy
        polosy im. V.V.Dokuchayeva v kolkhoze "Rassvet" Ostro-
        gozhskogo rayona Voronezhskoy oblasti (for Ovchinnikov).
        4. Kurskiy Sel'skokhozyaystvennyy institut (for Bogdanov).

KOMMONER, B. [Commoner, B.], prof. fiziologii rasteniy; FEYGINSON, N.I.
[translator]

In defense of biology. Agrobiologiia no.3:351-358 My-Je '63.
(MIRA 16:7)
1. Predsedatel' Komiteta po molekulyarnoy biologii Vashingtonskogo
universiteta, Sent-Luis, Missuri, SShA.
(Biology--Philosophy)

KOMMUNARSKAYA, A.D.

Thermal process for extraction of griseofulvin. Antibiotiki 9 no.1:28-29 Ja '64.

(MIRA 18:3)

1. Leningradskiy nauchno-issledovatel'skiy institut antibiotikov.

ROMANKOVA, A.G.; FURSENKO, M.V.; KOMMUNARSKAYA, A.D.

Variability of Penicillium nigricans Bain., the producer of
griseofulvin, under the action of ultraviolet and x-rays and
ethylenimine. Mikrobiologiia 33 no.4:582-586 Jl-Ag '64.
(MIRA 18:3)

1. Leningradskiy nauchno-issledovatel'skiy institut antibiotikov.

L 31283-66

ACC NR: AP6020242

SOURCE CODE: UR/0300/65/037/002/0243/0250

23

B

AUTHOR: Komnatna, L. I.

ORG: Department of Biochemistry, Lugansk Medical Institute (Kafedra biokhimiyi Luhans'koho medychnoho instytutu)

TITLE: Lipoproteins of the human brain

SOURCE: Ukrayins'kyy biokhimichnyy zhurnal, v. 37, no. 2, 1965, 243-250

TOPIC TAGS: man, brain, protein, organic phosphorous compound

ABSTRACT: Neuro-globulins and neuro-stromins of the human brain are complex proteins -- lipoproteins with a polycomponent lipid moiety, the composition of which include cholesterol, phospholipids, and cerebrosides. The total amount of lipids varies from 9.03 to 12.95% in neuro-globulins and from 28.73 to 43.06% in neuro-stromins. Most of the lipids are loosely bound to the proteins; this is equally true of phospholipids, cholesterol, and cerebrosides; but more of the cerebrosides are firmly bound to the proteins than are other lipids. Among the phospholipids in the human brain, both acetone-soluble as well as acetone-precipitable phospholipids have been found. The main bulk of cholesterol is part of the composition of the brain lipoproteins in a freem nonesterified state. No correlations were found between the composition of brain lipoproteins with age or sex. Orig. art. has: 4 tables. /Based on author's Eng. abst./ /JPRS/

SUB CODE: 06, 07 / SUBM DATE: 18Jan64 / ORIG REF: 009 / OTH REF: 006

Card 1/1

Proteolipids of the brain. Ukr.biokhim.zhur. 32 no.1:83-86
'60.   (MIRA 13:6)

1. Department of Biochemistry of the Stalingrad Medical Institute.
                        (PROTEILIPIDS)

KOMNATNAYA, L.I.

Neurostromins of the brain as complex lipoproteins. Ukr. biokhim.
zhur. 32 no.4:551-559 '60.   (MIRA 13:9)

1. Kafedra biokhimii Stalingradskogo meditsinskogo instituta.
          (LIPOPROTEINS)   (BRAIN)

KOMNATNAYA, L.I.

Transamination enzymes in human saliva. Vop. med. khim. 9 no.6:
(MIRA 17:10)
581-583 N-D '63.

1. Kafedra biokhimii Luganskogo meditsinskogo instituta.

KOMNATNAYA, L.I. [Komnatnaa, L.I.]

Lipoproteins of the human brain. Ukr. biokhim. zhur. 37 no.2:243-250
'65.   (MIRA 18:6)

1. Kafedra biokhimii Luganskogo meditsinskogo instituta.

SUDAREV, M.D.; KOMNATNYY, N.A.; BERDENNIKOV, Ye.V.; SOBOLEV, N.V.

Putting into operation a 32000 kva charge-resistance furnace.
TSvet. met. 34 no.3:23-31 Mr '61.   (MIRA 14:3)
                        (Electric furnaces)

KOMNENIC, Nedeljko, dipl. ec. (Beograd)

Problems of financing investment in electric power industry.
Energija Hrv 13 no. 1/2:5-15 '64.

1. Institute of Industrial Economy, Belgrade.

KOMNENIC, Steva, inz. (Kragujevac); VULOVIC, Dragisa, inz. arh. (Kragujevac)

Geodesic bases for the urbanization of the settlements in the district of Kragujevac. Geod list 16 no.4/6:197-201 Ap-Je '62.

Konnik, S. N.

AUTHORS: Konnik, S. N., Startsev, V. I. and Tsirlin, Yu. A.   51-4-3-24/30

TITLE: The Temperature Dependence of γ-Scintillations in
             Caesium Iodide Crystals Activated by Thallium
             (Temperaturnaya zavisimost' γ-stsintillyatsiy v
             kristallakh iodistogotseziya, aktivirovannogo talliyem.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol.IV, Nr.3,
             pp.411-412 (USSR)

ABSTRACT: The authors studied the temperature dependence (in
             the 30-150° C region) of luminescence of CsI(Tl) when
             excited with γ-rays. A photomultiplier of the
             FEU-S type was used. A cylindrical crystal of CsI
             with 0.041% of Tl. of 10 mm diameter and 6 mm height
             was placed in a cylindrical recess in a solid block of
             copper. This block was heated indirectly and crystal
             temperature was measured by means of a copper-
             constantan thermocouple with an accuracy of $\pm$ 3%.
             Co^{60} was used as the source of γ-rays. The
             intensity of scintillations was found by measurement
             of the anode current of the photomultiplier. The
             experiments were made on four samples cut from

Card 1/2   different monocrystals. The results are shown in

The Temperature Dependence of γ-Scintillations in Caesium Iodide
Crystals Activated by Thallium.

51-4-3-24/30

the figure on p.412, where the scintillation yield
(I) is plotted against temperature.   Curve 1
(continuous) gives the experimental values, and
curve 2 (dashed) gives theoretical values calculated
from the equation $I = A/[1+b \exp(-\varepsilon/kT)]$ with
$b = 3.15 \times 10^{4}$ and $\varepsilon = 4.9 \times 10^{-13}$ ergs.   Near
room temperature the decrease of scintillation intensity
is about 0.7 % per degree.   There is 1 figure and
2 Soviet references.

SUBMITTED: July 1, 1957.

1. Caesium iodide crystals--Luminescence   2. Thallium
(activated)--Applications   3. Luminescence--Temperature
effects   4. Photomultipliers--Applications

Card 2/2

SOV/51-6-3-25/28

AUTHORS: Tsirlin, Yu.A., Komnik, S.N. and Soyfer, L.M.

TITLE: Dependence of the Luminescence Yield of α- and γ-Excited CsI(Tl) Crystals on the Concentration of Tl (Zavisimost' vykhoda lyuminestsentsii pri α- i γ-vozbuzhdenii kristallov CsJ(Tl) ot kontsentratsii Tl)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 3, pp 422-424, (USSR)

ABSTRACT: CsI(Tl) crystals have many advantages when used in scintillation counters. The present paper reports the dependence of the luminescence quantum yield of CsI(Tl) excited with either α-particles from Po^{210} or γ-rays from Cs^{137} on the amount of Tl; the latter was varied from 0.005 to 0.5 wt. %. The α-yield (Fig.2) reaches saturation at about 0.1% Tl. The γ-yield (Fig.3) has a maximum at 0.01 - 0.03% Tl and falls slowly with further increase of the Tl concentration. The ratio of the α-particle and γ-ray yields (α/γ) is shown in Fig.4 as a function of the amount of Tl in CsI(Tl); this ratio reaches saturation $(\alpha/\gamma = 0.55)$ at about 0.1% Tl.

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Dependence of the Luminescence Yield of α- and γ-Excited CsI(Tl)
Crystals on the Concentration of Tl

    The curves of Figs.2 and 3 were obtained by irradiation of
2 mm thick disks cut from monocrystals grown by the Stockbarger
method. A typical distribution of Tl along a monocrystal
is shown in Fig.1. The quantum yields were found using a
FEU-29 photomultiplier and either (a) measuring the anode
current of the photomultiplier (the results are denoted by
circles in Figs.2 and 3), or (b) counting the pulses and
measuring their peaks (crosses in Figs.2 and 3). Both
methods gave identical results which show that the scintillation
decay time is independent of the amount of Tl. Acknowledg-
ment is made to a group of workers led by A.M. Bulgakova
who analysed the crystals for thallium. There are 4 figures
and 10 references, of which 4 are Soviet, 4 English, 1 Swiss
and 1 Italian.

SUBMITTED: July 14, 1958

Card 2/2

BENGUS, V.Z.; KOMNIK, S.N.; STARTSEV, V.I.

Generation of dislocations in calcite crystals. Kristallografiia
6 no.4:599-604 Jl-Ag '61.   (MIRA 14:8)

1. Vsesoyuznyy institut khimicheskikh reaktivov, Khar'kovskiy
filial.
          (Dislocations in crystals) (Calcite crystals)

30720

S/020/61/141/003/007/021
B104/B212

24.7500

AUTHORS: Bengus, V. Z., Komnik, S. N., and Startsev, V. I.

TITLE: Motion of twinning dislocations in calcite

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 3, 1961, 607-610

TEXT: The mechanical stress which starts the motion of twinning disloca-
tions, is an important factor in the description of twinning processes. The
present paper reports on tests which have been performed to determine these
stresses. The motion of twinning dislocations was observed by the method
of repeated etching suggested by J. Gilman et al. (Dislocations and Mechan-
ical Properties of Crystals, N. Y., 1957, p. 116). The mechanical stress
which caused the motion of twinning dislocation, was induced by pressing
the diamond pyramid of a ПМТ-3(PMT-3) microhardness device into the specimen.
By varying the load of the diamond pyramid that load was determined, at which
twinning dislocations started moving. For the calculation of the forces
acting on each dislocation, strain-field formed by neighboring dislocations
had to be allowed for. The stress required for starting a motion ranged
between 60 and 15 g/mm^2, and was dependent on the amount and character of
the neighboring dislocations. The authors voice the opinion that these
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B104/B212

Motion of twinning dislocations...

values might permit the determination of interaction forces between dis-
locations. The establishment of equilibrium distribution for dislocations
in accumulations was analyzed. Results point to the fact that the resist-
ance of dislocations to a motion is equal for all dislocations and is equal
to the starting stress. If there is no external stress, then the following
relation will be valid for the starting stress σ_o: $\sigma_o = \frac{n}{L} \frac{Gb}{(1-\nu)}$, where n
denotes the number of dislocations in an accumulation G the shear modulus
b the Burgers vector, L the length of the accumulation, and ν Poisson's
ratio. This expression was derived on the assumption that the barrier be
sufficiently long, that the dislocations be arranged in straight lines, and
that the force acting on a dislocation be evenly distributed. Test results
are compiled in Table 1. The large spread of σ_o is caused by the curvature
of dislocations and similar properties of the crystal. The authors thank
A. I. Landau and L. A. Pastur for discussions. There are 2 figures,
1 table, and 8 references: 3 Soviet and 5 non-Soviet. The three most
recent references to English-language publications read as follows: A. H.
Cottrell, B. A. Bibly, Phil. Mag., 42, 573 (1951); J. Eshelby, F. Frank,
F. Nabarro, Phil. Mag., 42, 351 (1951); J. Bhimasenachar, Proc. India.i

Card 2/3

30720

S/020/61/141/003/007/021
B104/B212

Motion of twinning dislocations...

Acad. Sci., A22, 199 (1945).

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperatur Akademii
nauk USSR (Physicotechnical Institute of Low Temperatures of
the Academy of Sciences UkrSSR)

PRESENTED: June 3, 1961, by I. V. Obreimov, Academician

SUBMITTED: June 3, 1961

Table 1: Test results.

n	L, см	σ_s, Г/мм²	n	L, см	σ_s, Г/мм²
130	0,1126	45	28	0,0111	91
96	0,0635	59	357	0,1500	94
26	0,0170	60	27	0,0112	95
23	0,0134	67	33	0,0127	102
15	0,0068	86	45	0,0128	138

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BENGUS, V.Z.; KOMNIK, S.N.; STARTSEV, V.I.

Certain phenomena observed on the boundaries of a twinning interlamination in calcite. Kristallografiia 6 no.4:614-620 Jl-Ag '61. (MIRA 14:8)

1. Vsesoyuznyy institut khimicheskikh reaktivov, Khar'kovskiy filial.
(Dislocations in crystals) (Calcite crystals)

L 18099-63   EWT(1)/EWP(q)/EWT(m)/BDS   AFFTC/ASD/ESD-3   JD
ACCESSION NR: AP3004101   S/0070/63/008/004/0632/0640

AUTHORS: Startsev, V. I.; Bengus, V. Z.; Komnik, S. N.; Lavrent'yev, F. F.

TITLE: Interaction of dislocations during twin growth in crystals

SOURCE: Kristallografiya, v. 8, no. 4, 1963, 632-640

TOPIC TAGS: dislocation, interaction, crystal, twinning, zinc, calcite, relief

ABSTRACT: The authors have studied the interaction of dislocations in zinc and
calcite crystals. A high density of twinning dislocations and their paired correla-
tives in the neighboring edges of fine twin layers in calcite have been detected
experimentally. It has been found that the stress necessary to shift the edge of a
thin twin layer (less than 1/μ) is much greater than that necessary to move the
twin edge of a thicker layer. Different kinds of pile-ups of twinning dislocations
were observed experimentally at the edges of twin layers. It has been shown that
the distribution pattern of dislocations in these pile-ups is determined by the type
of deposit. Experiments have also proved that the region of accommodation is
repelled from the twin boundary in zinc crystals (because of the interaction of
twinning and unit dislocations. It has been shown that the lack of agreement be-
tween the experimentally measured relief created by twinning in zinc and the relief

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L 18099-63
ACCESSION NR: AP3004101

plotted from geometrical constructions is due to slippage in a twin. The inter-
action of twinning and unit dislocations during untwinning of zinc crystals leads
to the formation of nonbasic partial dislocations (observed experimentally), which
may be the cause of increased strength. Orig. art. has: 6 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperatur AN USSR (Physical
and Technical Institute of Low Temperatures, Academy of Sciences, Ukrainian SSR)

SUBMITTED: 06Mar63   DATE ACQ: 15Aug63

SUB CODE: PH   NO REF SOV: 007   ENCL: 00

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L 21737-66   EWT(1)/EWT(m)/EEC(k)-2/EPF(n)-2/T/EWP(t)/EWP(k)   IJP(c)   WG/JD/HW/JG/

ACC NR: AP6008041 GG   SOURCE CODE: UR/0020/66/166/004/0829/0832

AUTHOR: Komnik, S. N.; Bengus, V. Z.

ORG: Physicotechnical Institute of Low Temperatures, Academy of Sciences UkrSSR
(Fiziko-tekhnicheskiy institut nizkikh temperatur Akademii nauk UkrSSR)

TITLE: Properties of stress relaxation in deformed crystals

SOURCE: AN SSSR. Doklady, v. 166, no. 4, 1966, 829-832

TOPIC TAGS: relaxation process, stress relaxation, crystal deformation, plastic
deformation, crystal dislocation phenomenon

ABSTRACT: Stress relaxation is studied at various stages of plastic deformation in
potassium chloride crystals. The specimens tested had an approximate dislocation
density of $3 \cdot 10^4$ cm^{-2}. In the first series of experiments, the crystals were load-
ed to a given tangential stress τ, after which deformation was stopped and stress
relaxation was measured (with a rest period from 0.5 to 2 minutes). Deformation was
then continued and stress relaxation was again measured and so on to a deformation
of approximately 10%. A curve is given showing stress relaxation as a function of

UDC: 548.0 : 539 + 548.4

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L 21737-66
ACC NR: AP6008041

initial stress τ for each rest period. This curve shows an increase in relaxation up to the yield stress (∿100 g/mm²), a practically constant value in the slip region and another regular increase in the region of hardening. The general tendency for stress relaxation to increase with stress is apparently due to the increase in the number of moving dislocations in the crystal with plastic deformation. Repeated relaxation was studied in the second series of experiments, i. e. after relaxation for a given time, the crystals were loaded to the initial stress value and the relaxation was again measured. This cycle was repeated several dozen times. Curves are given for deformation of the crystal in these tests. These curves show extremely rapid damping to zero of full relaxation in each cycle with an increase in the number of cycles below the elastic limit. This indicates that the number of dislocations moving in the crystal is reduced to zero with practically no multiplication. Below the yield stress, complete relaxation in each cycle is also strongly damped at first with an increase in the number of cycles, although not to zero but to some constant value. This indicates that the number of dislocations moving in the crystal is not reduced, but remains constant due to multiplication. Only slight damping of repeated relaxation takes place with an increase in the number of cycles in the slip region. Relaxation is erratic in this region. This is due to the fact that multiplication of dislocations is intensive in the region of stresses respon-

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ACC NR: AP6008041

sible for the stage of easy slipping. In the hardening stage, repeated relaxation decreases in the same way as in the stage below the yield stress althouth the residual relaxation is higher and the process is more stable. A common phenomenon for all measurements of relaxation was hardening of the crystal as a result of relaxation (single or multiple). This indicates that after a considerable number of relaxation cycles, relaxation must be reduced to zero, i. e. the multiplication of dislocation ceases. In conclusion we thank V. I. Startsev for constant interest, support and consultation, and also O. B. Shtitel'man for assistance in making the measurements. Orig. arg. has: 4 figures.

SUB CODE: 20/   SUBM DATE: 08Jun65/   ORIG REF: 007/   OTH REF: 003

Card 3/3

KOMNIK, Yu. F.

24-11-29/31

AUTHORS: Komnik, Yu. F., Palatnik, L.S. and Fedorov, G. V. (Khar'kov)

TITLE: Distribution of the condensate on a plane in the case of
         evaporation of metal from a cylindrical crucible.
         (Raspredeleniye kondensata na ploskosti pri isparenii
         metalla iz tsilindricheskogo tiglya).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh
         Nauk, 1957, No.11, pp. 193-196 (USSR)

ABSTRACT: The authors assume that when using a cylindrical crucible
         as an evaporator, distribution of the condensate of the
         molecular flow does not necessarily depend on the level
         of the metal in the crucible, provided this level is
         sufficiently distant from the opening of the crucible.
         They studied the dependence on the metal level in the
         cylindrical crucible of the condensate distribution on a
         plane collector for the purpose of verifying their
         assumptions. They also studied the influence of the
         temperature on the distribution of the condensate and
         the influence of the location of the metal level in the
         crucible on the speed of evaporation of the metal. The
         condensate distribution on a plane transparent base was
         studied by photometering of semi-transparent metallic
Card 1/2 layers. The experiments were effected by means of a

KOMNIK, Yu. F., Cand of Tech Sci -- (diss) "Investigation of the Mechan-

ism of Condensation of Metalls in a Vacuum ," Kharkov, 1959, 16 pp

(Khar'kov Polytechnical Institute im Lenin) (KL, 1-60, 122)

18(6)

AUTHORS: Palatnik, L. S., Komnik, Yu. F.

TITLE: On the Problem of the Mechanism of the Condensation of Metals in a Vacuum (K voprosu o mekhanizme kondensatsii metallov v vakuume)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 4, pp 808-811 (USSR)

ABSTRACT: The authors chose the test object bismuth, which was condensed on to a glass base with a temperature gradient of from 30 to 250°. In order to obtain a temperature gradient one end of the plate was fastened in a copper block fitted out with a heating furnace. The temperature on the plate was measured at seven points by means of pasted-on copper-constantane thermocouples. The bismuth condensate has 3 successive ranges in the direction of increasing temperature. Range 1 is a reflecting dark-blue condensate. Range II has a dim highly transparent precipitate of yellow-brown color. Range II is separated from range I by a sharp boundary at the temperature T_{K1}. Behind range II is range III, i.e. pure glass. The boundary between II and III is slightly washed out. The temperature T_{K2}, at which the second boundary occurs, is the

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On the Problem of the Mechanism of the Condensation of Metals in a Vacuum

critical temperature of condensation. The microstructure of
the condensate in range I is not resolved at all in an
optical microscope and in an electronic microscope it is
only badly resolved with 10000-fold enlargement. The particles
are of angular shape. In range II are the thin layers of the
condensate $(10^{-7} - 10^{-5}$ cm) of isolated spherical particles.
The electronograms of range I distinctly indicate the existence
of a structure. In range II there is no kind of texture, and
the ranges of coherent scattering have a magnitude of

$\sim 10^{-7}$ cm. These data are indicative of the following mechanism
of the condensation of bismuth at various temperatures of
the glass base: In range I condensation occurs at temperatures
of $T < T_{K1}$ by direct crystallization from the vapor (mechanism
vapor $\rightarrow$ crystal). In the second temperature range $T_{K1} < T \leqslant T_{K2}$
the liquid phase is passed through in condensation (vapor $\rightarrow$
liquid). In this case the metal is in the liquid state, con-
denses to a drop, and, in the course of being further cooled
Card 2/4   (below T_{K1}) it is transformed into a polycrystal with finely

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On the Problem of the Mechanism of the Condensation of Metals in a Vacuum

dispersive non-orientated structure. The marked difference
in the optical properties of a bismuth film may thus be ex-
plained by the difference in size and number of the particles
in ranges I and II of the condensate. The authors further
quantitatively investigated the dependence of the critical
temperatures T_{K1} and T_{K2} on the density of the molecule cur-
rent. These dependences are illustrated in form of a dia-
gram and permit the following conclusions to be drawn: The
mechanism of the condensation of a metal in a vacuum is
determined by the existence of the two critical temperatures
T_{K1} and T_{K2}. The temperature T_{K1} of the base corresponds to
the transition of the condensation mechanism vapor → crystal
to the mechanism vapor → liquid. The condensation of metal probably
occurs as a result of the production and growth of liquid or
two-dimensional germs. The production of the germs at the
beginning of the condensation process is of decisive importance.
The regularities found for bismuth probably hold also for
other metals. Further investigations in this direction ought
to be carried out. There are 1 figure and 15 references,

Card 3/4   10 of which are Soviet.

SOV/2o-124-4-22/67

On the Problem of the Mechanism of the Condensation of Metals in a Vacuum

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina
(Khar'kov Polytechnic Institute imeni V. I. Lenin)
Khar'kov gosudarstvennyy universitet im. A. M. Gor'kogo
(Khar'kov State University imeni A. M. Gor'kiy)

PRESENTED: October 22, 1958, by S. A. Vekshinskiy, Academician

SUBMITTED: October 21, 1958

Card 4/4

18(7)

-AUTHORS: Palatnik, L. S., Komnik, Yu. F.   SOV/20-126-1-19/62

TITLE: Condensation Kinetics of Metals in   Vacuo
             (O kinetike kondensatsii metallov v vakuume)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 1, pp 74-77
             (USSR)

ABSTRACT: At first, the authors refer to some previous papers on this
             subject. In the present paper, they investigate - by the
             methods of electric conductivity and optical density - the
             initial stage of the condensates Bi, Pb, Sn and Sb on a
             "neutral" basis (glass, collodion). The execution of the
             experiments is discussed in short. For films of Bi, Pb, Sn, Sb
             with a thickness of $<$60-100 Å, the authors confirmed the
             linear dependence $S = \beta Q$. S denotes the optical density of the
             thin layer, and Q the surface density $Qg \cdot cm^{-2}$ of the metal
             condensed on the basis. $\beta = 0.95 \cdot 10^5 g^{-1} cm^2$ holds for Bi,
             $\beta = 1.26 \cdot 10^5 g^{-1} cm^2$ for crystalline antimony,
             $\beta = 2.96 \cdot 10^5 g^{-1} cm^2$ for Al. A diagram shows the dependence

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Condensation Kinetics of Metals in   Vacuo   SOV/20-126-1-19/62

of S on the concentration time τ characterizing the process
of accumulation of the condensate at different temperatures of
the basis. At the beginning condensation, the rate
$dQ/d\tau = \gamma dS/d\tau$ rises from zero to a certain, practically
constant, value. The higher the temperature of the basis is,
the more slowly rises this rate. Thus, the accommodation
coefficient α in the initial instant of condensation rises
from zero to a certain constant value. This diagram also shows
the dependence of the electric resistance $R(\tau)$ for Bi at the
temperatures indicated. The electric resistance decreases
rapidly with the condensation time, which corresponds to the
growing-together of the particles of Bi into a compact layer.
The stabilization of the condensation rate $dQ/d\tau$ begins long
before this growing-together. Similar results were found for
Pb, Sn and Sb. Subsequently, the authors explain these
experimental data on the basis of the theory of the two-dimen-
sional state. The molecules of the metal vapor are adsorbed by
the surface of the basis, and form a two-dimensional vapor.
At a certain oversaturation of it, stable two-dimensional

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Condensation Kinetics of Metals in   Vacuo   SOV/20-126-1-19/62

nuclei of the crystalline or liquid phase are produced. The
theory of the two-dimensional state also facilitates the
forecast of new phenomena. There are 3 figures and
15 references, 10 of which are Soviet.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina
(Khar'kov Polytechnical Institute imeni V. I. Lenin)
Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo
(Khar'kov State University imeni A. M. Gor'kiy)

PRESENTED: February 14, 1959, by S. A. Vekshinskiy, Academician

SUBMITTED: February 13, 1959

Card 3/3

85995

18.7500   1146, 1145   S/070/60/005/005/021/026/XX
                           E132/E160

AUTHORS: Palatnik, L.S., and Komnik, Yu.F.

TITLE: The Texture of Nucleation in Condensates Formed on an
             Amorphous Substrate

PERIODICAL: Kristallografiya, 1960, Vol.5, No.5, pp.775-778

TEXT: When a substance is condensed on to a crystalline
substrate then a texture is normally observed but this can also
happen when the substrate is amorphous. Layers thicker than a
critical value about 10^{-6} cm perfect themselves with increasing
thickness. Below this thickness the particles on the film do not
touch each other. Condensates of Bi and Sn were studied on layers
of colloidon. It has earlier been shown that there is a critical
temperature t_k of the substrate below which the vapour condenses
as crystals and above which there is a metastable liquid stage.
For Bi t_k is 93-98°, and for Sn 75-80°. The critical thickness
was determined from electrical conductivity measurements. The
condensed layers were also studied by transmission electron
diffraction to show the preferred orientation. It was found that
textures were encountered also in layers of subcritical thickness -
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S/070/60/005/005/021/026/XX
E132/E160

The Texture of Nucleation in Condensates Formed on an Amorphous Substrate

two-dimensional colloids. The direction of the texture in layers of subcritical thickness does not depend on the direction of the molecular beam. The texture axis is always perpendicular to the substrate. After the formation of a dense layer up to 300 Å the texture axis is maintained. If the beam is perpendicular to the substrate the perfection improves with thickness but otherwise deteriorates. With increasing beam density (10^{-5} g/cm^2/sec and above) the perfection of the texture falls rapidly. The explanation appears to be that the initial layers are formed so that they have the minimum surface energy and take the packing of the plane of greatest reticular density. After the growth of the crystalline nuclei in the dense layer the nucleation texture becomes a growth texture the spatial orientation of the texture axis of which is determined by the direction of the molecular beam. There are 1 figure and 7 references: 6 Soviet and 1 German.
ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V.I.Lenina
              (Khar'kov Polytechnical Institute imeni V.I. Lenin)

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E132/E160

The Texture of Nucleation in Condensates Formed on an Amorphous
Substrate

Nauchno-issledovatel'skiy institut osnovnoy
khimii
(Scientific Research Institute for Fundamental
Chemistry)

SUBMITTED: March 3, 1960   X

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S/126/60/009/03/011/033
E091/E435

AUTHORS: Palatnik, L.S. and Komnik, Yu.F.

TITLE: Investigation of the Melting Point of Thin Condensed Sn and Bi Layers

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol 9, Nr 3, pp 374-378 (USSR)

ABSTRACT: Semenchenko (Ref 1) and Freundlich (Ref 2) have shown that the melting point of small particles must be lower than that of massive crystals. Freundlich (Ref 2) and Takagi (Ref 3) have worked out a formula – Eq (1) – by means of which the change in melting point of small spherical particles can be calculated. The authors of this paper have generalized the above formula so that it can be applied for particles of any shape. The most favourable kinetic condition for the fusion of a non-spherical particle is a minimum surface of separation between the crystalline and liquid phase. The modified formula is shown in Eq (2). Takagi (Ref 3) has confirmed experimentally the lowering of the melting point of greatly scattered particles forming when metal condenses in vacuum. He has registered electronographically the

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Investigation of the Melting Point of Thin Condensed Sn and Bi
Layers

instant of melting of condensates of metals and has
obtained the results shown in the Table on p 374.
These results, however, are inaccurate and inadequate
for quantitative calculations by the formula of Eq (1).
Besides, the thickness of the layer does not give an
idea of the real dimensions of the condensate particles.
The authors of this paper have investigated Sn and Bi
condensates. The experimental method consisted in the
following: a step-shaped metal condensate was prepared
on a glass plate by depositing a molecular cluster in
vacuum. For this purpose, a screen was placed between
the evaporator and the glass plate, which was moved
periodically whilst condensation was in progress.
Subsequently, the glass plate was heated at one end
without disturbing the vacuum, as a result of which
a stationary temperature gradient was established in it.
The temperature distribution along the plate was
registered by means of 5 Cu-constantan thermocouples

Card 2/4   fixed to it. In the stationary condition, the isotherms

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E091/E435

Investigation of the Melting Point of Thin Condensed Sn and Bi
Layers

are practically straight lines crossing the condensate
perpendicularly to the steps. After deposition, a
fusion boundary was clearly visible (see Fig 1).
The change in optical density of the condensate on
fusion occurs as the result of a change in shape of
particles when the metal contracts to form drops. The
specific surface density of the condensate or the
conventional thickness were determined from the rate
of condensation and the time of exposure of each step
as well as by measuring the optical density of the
condensate (Ref 5). The authors have worked out a
method for estimating the average particle size in the
condensate. The dependence of melting point on
particle size for an Sn condensate is shown in Fig 2.
The same dependence for Bi is shown in Fig 3. The
authors conclude: (1) The melting point of greatly
scattered isolated crystals of Sn and Bi made by
condensation of a molecular flow in vacuum are a function
of the crystal sizes of the condensate. The maximum

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S/126/60/010/004/021/023
E021/E406

AUTHORS: Palatnik, L.S. and Komnik, Yu.F.

TITLE: The Critical Temperature of Condensation of Bismuth, Lead and Tin

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol.10, No.4, pp.632-633

TEXT: In an earlier paper (Ref.1) it was shown that in condensation of bismuth on a glass plate with a temperature gradient in the region 50 to 300°C, there are two critical temperatures of condensation T_{K1} and T_{K2}.   It has also been shown (Ref.6) that below T_{K1} condensation occurs by a vapour-solid change and above T_{K1} but below T_{K2} as a vapour-liquid change.   The physical properties (optical, electrical etc.) of the condensates formed in these two ways are different.   The critical temperature T_{K1} for bismuth, lead and tin have been determined.   These are given in the following table :

	t_{K1}, °C	T_{K1}, °K	T_S, °K	$T_S - T_{K1}$, °K	T_{K1}/T_S
Bi	97	370	544	174	0.68
Pb	140	413	600	187	0.69
Sn	75	348	505	157	0.69

Card 1/2

PALATNIK, L.S.; KOMNIK, Yu.F.

Critical condensation temperature of Bi, Sb, and Pb. Dokl.AN
SSSR 134 no.2:337-340 S '60.   (MIRA 13:9)

1. Khar'kovskiy politekhnicheskiy institut im. V.I.Lenina i
Nauchno-issledovatel'skiy institut osnovnoy khimii. Predstavleno
akad. S.A.Vekshinskim.
        (Bismuth)   (Antimony)   (Lead)

20319

9,4300 (1150)
24.7700   1143, 1160, 1155

S/020/61/137/001/011/021
B104/B209

AUTHORS: Palatnik, L. S.,   Komnik, Yu. F.,   Koshkin, V. M., and
             Belova, Ye. K.

TITLE: A group of ternary semiconducting compounds

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 1, 1961, 68-71

TEXT: In the introduction, the authors show that in the choice of new multi-component semiconducting compounds one must use not only chemical criteria but has also to consider the thermodynamic stability of the compound concerned. The authors synthetized a series of alloys of the type of the ternary compound $B_2^{I}B^{IV}B_3^{VI}$. Here, $B^I = Cu$, $B^{IV} = Ge$, Sn, Pb, and $B^{VI} = S$, Se, Te. X-ray photographs show that all these compounds except that with Pb, form diamond-type crystals. From the "structural" lines of the X-ray photographs, the authors determined the lattice parameters which are compiled in Table 1. Beside these "structural" lines, also "superstructural" lines were found. The hkl indices of these lines

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A group of ternary...

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B104/B209

are all even numbers, and their sum is $h_i = \sum 4n + 2$ $(n = 0, 1, 2)$.

These values are listed in Table 1, too. It is noted that S, Se, and Te form an anion subgroup of the compound and a sublattice. Cu, Sn, and Ge atoms form an analogous cation sublattice. When the differences in the atomic factors of anion and cation are great, the "superstructural" lines were stronger than in the case of a slight difference. It was further found that the substitution S $\longrightarrow$ Se $\longrightarrow$ Te causes a regular increase in the lattice parameter. Similar changes, but to a lesser degree, were observed when Ge was substituted by Sn. The authors conclude from the ratios of the ionic radii shown in Table 2 that the Ge^{4+} and Sn^{4+} cations form tetrahedrons with all anions concerned (S^{2-}, Se^{2-}, Te^{2-}).

It is improbable that the Pb^{4+} cation forms a tetrahedron with these anions since strong structural stresses would arise. This crystallo-chemical representation thus proves the above results of the authors to be true. On the basis of these results, the lattice parameters are calculated according to the formula

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$$a_{calc.} = \frac{8}{\sqrt{3}} \frac{\bar{d}}{2} \simeq \frac{8}{\sqrt{3}} \bar{r}$$ (1). Therein, $\bar{d}$ denotes the mean distance

between the connections of anion and cation in the anion- (and cation-)
tetrahedron, $\bar{r}$ - the mean atomic radius in the lattice of the examined
ternary compounds. Results are shown in Table 1. Moreover, the ternary
compounds studied here turned out to be semiconductors. Finally, it is
shown that in the synthesis of new semiconducting compounds, attempts
should be made to obtain compounds with the electron structure of the
above-described compounds. The shape of the Brillouin zones is conserved
if the lattice structure of the new compounds is the same; and if the con-
centration of the valency electrons is the same, the position of the Fermi
levels is conserved, too. Since both factors determine the semiconducting
properties of a compound, the semiconducting properties of new compounds
will depend on the degree of ionicity of the new compound. There are
1 figure, 3 tables, and 6 references: 4 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo
              (Khar'kov State University imeni A. M. Gor'kiy).

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A group of ternary...

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B104/B209

Nauchno-issledovatel'skiy institut osnovnoy khimii Khar'kov
(Scientific Research Institute of Basic Chemistry, Khar'kov)

PRESENTED: December 2, 1960, by S. A. Bekshinskiy, Academician

SUBMITTED: November 26, 1960

Legend to Table 1:
1) Lattice parameter, A;
1a) calculated with (1),
1b) experimental;
2) error, %; 3) observed
weak "superstructural" lines.

Table 1

Соединения	1 Параметр решетки, Å		2 Погрешность Δ, %	3 Наблюдаемые (слаб.) сверхструктурные линии Σh_i
	$a_{выч}$	$b_{эксп}$		
Cu_2GeS_3	5,30	5,30	—	4,12,36,44
Cu_2SnS_3	5,44	5,43	—0,2	4,12,20,36,44
Cu_2GeSe_3	5,52	5,55	+0,5	44
Cu_2SnSe_3	5,65	5,68	+0,5	4,44
Cu_2GeTe_3	5,97	5,95	—0,3	4,12,20,36, 44,52
Cu_2SnTe_3	6,11	6,04	—1,1	4,12,44

Legend to Table 2:   1) Ions

Table 2

Ионы	$r_к$, Å	S^{2-}	Se^{2-}	Te^{2-}
		r_a, Å		
		1,74	1,91	2,03
Ge^{4+}	0,44	0,25	0,23	0,22
Sn^{4+}	0,74	0,42	0,39	0,36
Pb^{4+}	0,84	0,48	0,44	0,41

Card 4/4

S/070/62/007/001/014/022
E032/E314

AUTHORS: Palatnik, L.S., Koshkin, V.M. and Komnik, Yu.F.

TITLE: Isoelectronic series of semiconducting compounds

PERIODICAL: Kristallografiya, v.7, no. 1, 1962, 124 - 125

TEXT: The authors review published information in order
to establish whether Goldschmidt's rule (Ref. 1 - Uspekhi
fiz. nauk, 9, 6, 811, 1929), which was originally formulated
for compounds   AB   with diamond-type lattices (where A
and B belong to the same half-periods in the periodic table),also
holds for tertiary semiconducting compounds with diamond lattices.
The results are summarized in the table. As can be seen,
Goldschmidt's rule does hold and the authors expect that it
will also hold in four-component compounds such as, for example,
Cu_3AsSe_4, $CuGe_2As_3$, $CuZnGaSe_4$, $Cu_2ZnGeSe_4$, $Cu_3ZnGaGeSe_6$, which
should have lattice constants practically equal to 5.65 Å.
In Ag_2SnTe_3, $CdSnSb_2$, $AgInSnSb_4$ and $CdInSnSb_3$ the lattice
constants should be 6.46 Å. The rule may even apply to
n-component semiconductor compounds with diamond lattices.
Card 1/2

Isoelectronic series of ....

S/070/62/00//001/014/022
E032/E314

There are 1 table and 11 references: 8 Soviet-bloc and 3 non-Soviet-bloc. The 2 English-language references mentioned are: Ref. 4 - H. Pfister - Acta crystallogr., 11, 221, 1958; Ref. 10 - C.H.L. Goodman - J. Phys. Chem. Solids, 6, 305, 1958.

ASSOCIATIONS: Khar'kovskiy nauchno-issledovatel'skiy institut osnovnoy khimii (Khar'kov Scientific Research Institute of Basic Chemistry)
Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo (Khar'kov State University im. A.M. Gor'kiy)

SUBMITTED: May 26, 1961

Card 2/3

S/058/62/000/004/125/160
A061/A101

AUTHORS: Palatnik, L. S.; Komnik, Yu. F.

TITLE: Mechanism of metal condensation in vacuum

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 63, abstract 4E540
             (V sb. "Rost kristallov. T. 3", Moscow, AN SSSR, 1961, 156 - 183.
             Discuss., 214 - 218)

TEXT: Depending on the conditions of metal condensation in vacuum, the
crystalline condensate may form either directly from the vapor, or through the
liquid phase $(v \rightarrow c$ or $v \rightarrow l)$. The initial stage of condensate formation on the
neutral backing has to be considered as a two-dimensional crystallization or as
the liquefaction of the two-dimensional metal vapor forming on the backing. The
mechanism of condensation in vacuum depends on the density of the molecular flow
ν and temperature T of the backing. Two critical temperatures, T_{k1} and T_{k2}, cor-
responding to the transition from the condensation mechanism $v \rightarrow c$ to $v \rightarrow l$,
respectively, are established. Temperature T_{k2} is critical temperature of con-
densation. A diagram of metal condensation in vacuum, topologically analogous

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Mechanism of metal condensation in vacuum

S/058/62/000/004/125/160
A061/A101

to the phase diagram of metal precipitate, is plotted from data on the dependence
of T_{k1} and T_{k2} on v.

[Abstracter's note: Complete translation]

Card 2/2

S/137/62/000/005/007/150
A006/A101

AUTHORS: Palatnik, L. S., Komnik, Yu. F.

TITLE: On the mechanism of condensating metals in a vacuum

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 13, abstract 5A77
               (V sb. "Rost. kristallov v. 3", Moscow, AN SSSR, 1961, 156-183,
               Discussion, 214-218)

TEXT: The authors studied the condensation mechanism; the aim was to
reveal, whether the formation of the crystalline phase proceeded directly from
the gas or whether the condensate passed through a liquid state phase. Bi and
Sb condensation on a glass plate were studied; the temperature on the plate
was measured with seven copper-constantan thermocouples; the temperature
gradient on the plate was 2 - 3 degree/mm. A screen was placed between the
plate and the evaporator. During the experiment, this screen was periodically
moved in the direction across the plate, shielding it gradually from the molecule
beam. The optical density of S precipitates on the plate was measured. A graph
was plotted showing S as a function of the exposure time. Optical and electrono-
graphical methods were employed to investigate the condensate structure as a

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